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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/047,865      | 01/15/2002  | Reuel S. Orocio      |                     | 5116             |

7590 05/20/2003

Jack C. Munro, Agent of Record  
Suite 225  
28720 Roadside Drive  
Agoura Hills, CA 91301

EXAMINER

EDGAR, RICHARD A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3745

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DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,865

Applicant(s)

OROCIO ET AL. 

Examiner

Richard Edgar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-6 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: pump 10 (see page 4, line 17). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: numeral 33 in Figure 3. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

On page 5, line 15, "extend" should be --extends--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication No. US 2002/0106277 A1 filed by Chapman (Chapman hereinafter).

Chapman discloses in the various figures an impeller comprising a series of vanes 12 having an outer end which is integrally mounted on a shroud 13, the shroud 13 having a centrally located annular inlet ring (not numbered, but see the axially extending shroud portion adjacent ring 17 in Fig. 1) which provides an inlet to an eye of the impeller (refer to Fig. 6); and a hub 11 integrally connected to an inner end of the vanes 12, the hub 11 having a sleeve (not numbered, but see Figs. 6-9 showing the sleeve fixed to the motor shaft) connected thereto. The sleeve is located on one side of the vanes 12 and the shroud 13 is located on the opposite side of the vanes 12. Referring to Fig. 1, the inlet (R2) is larger in size than the hub (R1) and identified by a clearance ("c"), whereby the impeller can be manufactured in a single molding operation (see paragraph 0023).

The Chapman impeller is manufactured by a single injection molding method to produce the impeller described above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication No. US 2002/0106277 A1 filed by Chapman (Chapman hereinafter) in view of an engineering expedient.

Chapman discloses an impeller in Figs. 6-9 comprising a hub mounted to a motor by way of a motor shaft. The hub is connected to the shaft by a sleeve. Chapman does not explicitly disclose that the sleeve is at least one inch in length.

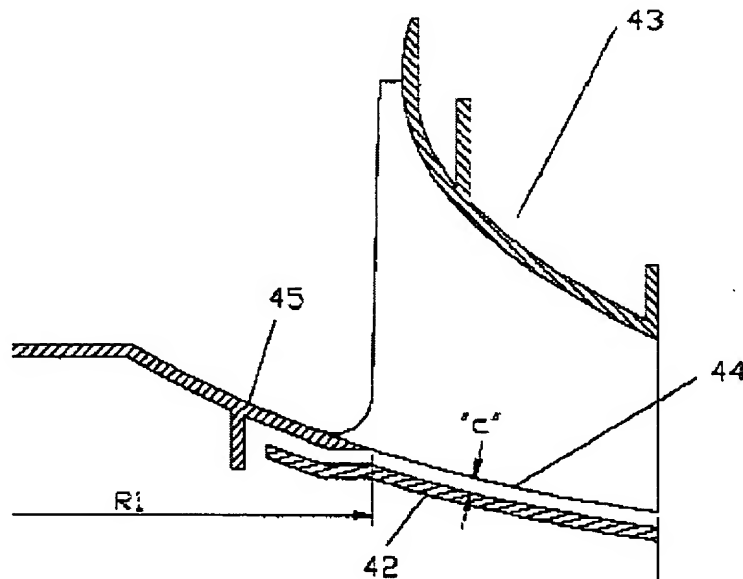
It is common practice in the art of impellers to mount impeller hubs onto motor shafts by using a sleeve formed on the impeller hub. By operating the motor, the shaft is made to rotate, thereby causing the attached sleeve to rotate, which ultimately causes the impeller to rotate. The joint between the shaft and the hub (i.e. the sleeve) must be of a suitable strength and dimension to ensure a sufficient connection during impeller operation, otherwise the connection would fail and the impeller would become loose from the shaft. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to manufacture the hub sleeve at least one inch in length as an engineering expedient for the purpose of maintaining a sufficient connection between the motor shaft and the impeller hub, thereby preventing the impeller from becoming loose from the shaft.

***Allowable Subject Matter***

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Chapman discloses in Fig. 4 (see below), a back plate (i.e. a cover) 42 located opposite the shroud relative to the vanes substantially enclosing the vanes. Chapman, however, does not teach the cover mounted on the hub covering the vanes, rather, Chapman quite expressly teaches the cover is not mounted on the hub and is formed with a stationary member such as the casing (see paragraph 0011).



Therefore, in the examiner's opinion, it would not have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the stationary cover of Chapman and mount it to the rotating impeller hub, especially since Chapman teaches a simplified one-piece impeller made by an injection molding procedure rather than a multiple-piece impeller joined by welding or some other joining process.

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**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Edgar whose telephone number is (703) 305-0050. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (703) 308-1044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Richard Edgar  
Examiner  
Art Unit 3745

RE  
May 14, 2003



EDWARD K. LOOK  
SUPERVISORY PATENT EXAMINER  
GROUP 3700  
5/15/03